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Short Communication

A SIMPLE METHOD FOR CORRECTION OF BUCCAL CROSSBITE OF MAXILLARY SECOND MOLAR

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ABSTRACT:

One of the most challenging situations in orthodontics is posterior crowding caused by a buccally erupted second permanent molar. The conventional approach, with labial fixed appliances, requires complicated first, second, and third order bends in the arch wire to align the tooth without extruding it. Other possibilities include intra- or interarch latex cross-elastics. Since these mechanics all involve a vertical force vector, however, they can produce unwanted extrusion of the second molar. We have developed a simple chair-side clinical technique for correction of buccal crossbite of maxillary second molar.

Key words: Buccal crossbite,Correction,Maxillary Second Molar.

INTRODUCTION:

Dental crossbite is the term used to define an occlusion problem involving the palatal positioning of the maxillary teeth relative to the mandibular teeth [1-4]. The crossbite can be unilateral of bilateral consisting of a crossbite on both sides.

The maxillary second molar tilts the long axis of the tooth in a mesio-palatal direction in normal eruption pattern. It may not achieve upright position due to inadequate arch length [5]. Due to palatal cusp the maxillary second molar may become prominanat occlusally and cause buccal crossbite. Buccal cross bite may be due to insufficient growth of maxillary tuberosity it has been observed that maxillary second molar erupt more buccally than did mandibular second

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molar [4]. Most of malposed maxillary second molars were inclined with their roots to mesial and their crown to the distal. The maxillary second molar erupts with excessive disto-buccal inclination in distalization procedure.

A crossbite will almost never correct itself with growth. It can affect primary teeth and permanent teeth. If the whole side of the primary dentition is in crossbite, there is a chance of the permanent teeth erupting into crossbite as well. A bilateral crossbite is even more severe. Correction is usually recommended. Most any age can be treated, preschools through adults [6-8].

Treatment usually consists of expansion of the upper arch allowing the teeth to fit properly and allowing more room for the correction of crowding. Expansion is one of the parts of comprehensive treatment. There are many different treatment modalities but the main goal of therapy is to correct the posterior crossbite, then only a few months of treatment. Once the crossbite is corrected, orthodontist usually leaves the appliance in there a few extra months so it won't relapse after removal. Usually a course of treatment is about 6 months, although that can vary [8].

It is usually difficult to correct molar cross bite because of lack of space in the dental arch. Buccally erupted maxillary second molars must be moved intruded and moved palataly to achieve the correction [3]. A simple technique has been applied to correct the buccal crossbite of maxillary second molars.

MATERIAL AND METHODS:

Correction of buccal crossbite of second molars has been very enduring for clinicians in past (Figure- A). Correction of posterior or anterior single-tooth crossbite, although it involves a limited portion of the dental arch, can be difficult. The tooth in crossbite must be intruded and moved either lingually or buccally. With posterior crossbite, care must be taken to avoid damaging the TMJ.[1,2}

One of the most popular one is use of cross bite elastics. But crossbite elastics have the disadvantage of extrusion of teeth.[3] Therefore, they should be avoided in cases where the second molar has already over-erupted, in patients with high mandibular plane angles, and in adults.

Though implants have also evolved as a choice for crossbite correction, we have devised a simple and effective method for buccal crossbite correction of second molars.

Steps in fabrication:

1. Place a soldered Transpalatal arch for anchorage on first molars.
2. Method used for engaging a section of E-chain on the loop of Transpalatal Arch is described in Figure- B.
3. E-chain is stretched from the Transpalatal arch to the hook on Second molar palatally.

DISCUSSION:

Graber has defined crossbite as a condition where one or more teeth may be abnormally malposed either lingually or labially with reference to opposing teeth. It is one of the major responsibilities of an orthodontist to guide the developing dentition to a state of normalcy in line with the stage of oral-facial growth and development. The period of mixed dentition offers the greatest opportunity for occlusal guidance and interception of malocclusion. If delayed to a later stage of maturity, treatment may become more complicated [9].

There are many reasons why cross bite occurs: jaw size and heredity, delayed loss of deciduous teeth, mouth breathing, tongue thrusting and thumb sucking. The consequences of not treating the problem are severe and can include facial asymmetry, narrowing of the nasal airways, myofunctional problems and temporomandibular joint disorders.

We have experienced a rapid correction of second molar crossbite by this simple method (Figure- C, D). This approach offers several advantages:

• Simple design.

• Direction of force along the long axis of the second molar's palatal root.

• Simultaneous intrusion of the molar's palatal cusp and retraction into alignment.

• Reduced chair time.

The transpalatal arch is essential for maintaining transverse anchorage in the posterior segment. An anterior bite plane may be needed to remove occlusal interference. The single-tooth crossbite can usually be corrected within six weeks.

CONCLUSION:

The main emphasis should be placed on the diagnosis and evaluation of the malocclusion with consideration on the facial profile and whether the child is benefited from the treatment. Further studies are required to evaluate other treatment modalities in comparison with this traditional method of correcting posterior dental crossbite.

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FIGURES:

Figure A

FIGURE B1

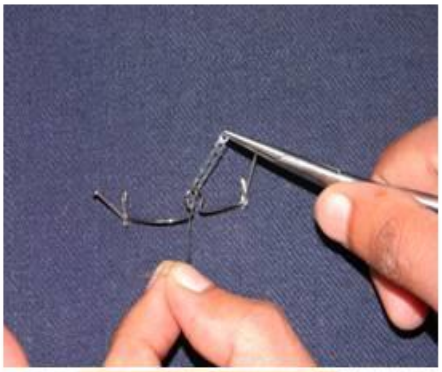

FIGURE B2

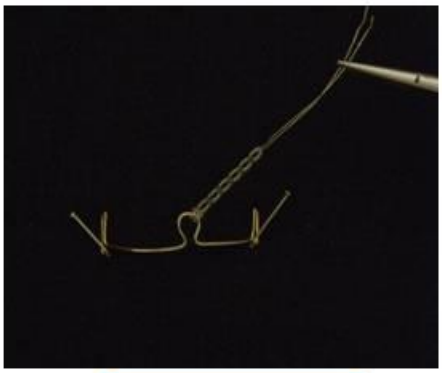

FIGURE B3

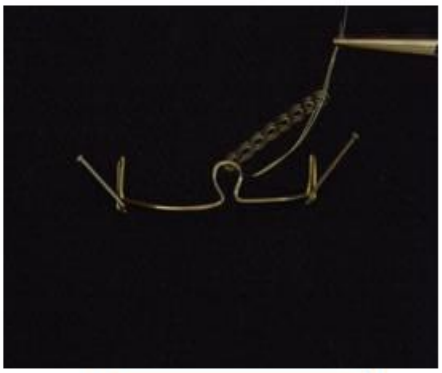

FIGURE B4

FIGURE C

FIGURE D